

NOTES ON AUSTRALIAN DIPTERA. XXXII.

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Family AGROMYZIDAE.

Genus FERGUSONINA Malloch.

PROC. LINN. SOC. N.S.W., 49, pt. 3, 1924, 337; *op. cit.*, 50, pt. 2, 1925, 90.

When I originally described this genus I had but one rather poorly preserved specimen before me. Subsequently I received another and better specimen of the genotype, and single specimens of three additional species, from which I described the species as indicated below. Until recently nothing was known of the larval habits, but in a recent shipment of reared material from Mr. W. B. Gurney there are examples of two species of the genus obtained from bud galls on seeds of *Eucalyptus maculatus*. It is very gratifying to me to learn that the genus named after the gentleman who was instrumental in having me work on the Australian Diptera is so clearly identified with an Australian plant and in all probability exclusively Australian.

Because of the condition of the type and the lack of material for comparison I erred in a few details of the original description and omitted some which did not at the time appear to me to be of consequence. These defects I correct herein and hope that the present paper will enable students to identify not only the genus, but all the species that have been described up to this time.

The postvertical bristles are placed close behind the ocellar triangle and are invariably divergent as shown in my original figure of the genotype; the ocellars are small, proclinate, and divergent, the frons is covered with short stiff hairs except on the large lunate or subtriangular central portion, which extends upward from the antennal bases to or above middle; the antennae are inserted close to or below lower margin of eyes, distant from these, and separated by a more or less well developed carina; the fronto-orbitals vary from two pairs to none, and the verticals are generally four in number, with the inner one on each side the smaller; antennae small, the arista almost bare; vibrissae developed or undeveloped; parafacials haired; proboscis small and stout; palpi of moderate length. Mesopleura and sternopleura setulose; mesonotum with two, rarely three, posterior pairs of postsutural dorsocentral bristles; scutellum with four bristles. Ovipositor of female in the form of a long slender chitinized cone, hypopygium of male rather inconspicuous. Costal vein weak beyond apex of third vein, sometimes practically indistinguishable on its apical section.

Genotype, *Fergusonina microcera* Malloch.

Key to the Species.

1. Third antennal segment black or fuscous, much darker than the basal two; costal vein quite well developed between apices of second and third veins and distinct under a transmitted light to apex of fourth vein; frontal orbits with the usual upper outwardly-directed bristles very weak or indistinguishable 2
Antennae entirely yellow 3
2. Parafacials with but one series of short black hairs from about middle of frontal lunule to lower margin of eye; hind femur of male with some strong black setulae at apex on posterior side, stronger below; mesonotum with four conspicuous dull black vittae behind the suture *atricornis* Malloch
Parafacials with two or more series of short black hairs on entire extent; hind femur in neither sex with strong black hairs at apex on posterior side; mesonotum without distinct postsutural black vittae *eucalypti*, n. sp.
3. Mesonotum entirely fulvous-yellow; cell between second and third wing veins not narrowed at apex 4
Mesonotum with black marks on disc; cell between second and third wing veins generally distinctly narrowed at apex 5
4. Each frontal orbit with but one well developed outwardly-curved bristle on upper third *microcera* Malloch
Each frontal orbit with two rather shorter outwardly-curved bristles on upper third *biseta*, n. sp.
5. Mesonotum with the disc broadly black, the usual vittae so closely contiguous that the yellow ground colour is obliterated; scutellum yellow, the base dark; all sclerites of the pleura largely blackened; all the frontal bristles, including the ocellar, two pairs of orbital, and the inner vertical well developed, the latter about half as long as the outer verticals *scutellata* Malloch
Disc of mesonotum with well defined blackish vittae, scutellum not black at base, the pleura less extensively blackened 6
6. Scutellum entirely yellow; mesonotum with six black vittae, the central pair much shortened posteriorly, the two on each side of them extending farther back, but not to posterior margin, all more or less broken at the suture; mesopleura with a slight dark mark near upper anterior angle, otherwise yellow
Scutellum blackened on each side at base; mesonotum with four black vittae, the outer one consisting of the two present in the above species, which are so closely contiguous that the yellow ground colour is completely obliterated, the central pair faint posteriorly but traceable to hind margin; mesopleura with an oblique black stripe from middle of anterior margin to lower posterior angle *flavicornis* Malloch
gurneyi, n. sp.

FERGUSONINA ATRICORNIS Malloch.

PROC. LINN. SOC. N.S.W., 50, 1925, 92.

I have seen only the type specimen of this species which is from Sydney, N.S.W.

FERGUSONINA EUCALYPTI, n. sp.

δ , ♀.—Very similar to *atricornis*, distinguishable principally by the characters listed in the foregoing key to the species. The head is yellow except a black spot on the ocellar triangle, and the third antennal segment; the hairs and bristles are black. The mesonotum has usually two vestigial black submedian vittae on the anterior margin which are placed so low that the head generally covers them; there are also usually traces of four reddish vittae anteriorly, but the reared material before me is not as well matured as it might be, so that it is impossible to tell whether these may, in perfectly matured specimens, become more conspicuous. The abdomen has a large black mark on the dorsum, which covers nearly all of the second, third, and fourth tergites in both sexes, which distinguishes the species from *atricornis*, in which the base of all except the first and apical tergites is broadly brown. The sheath of the ovipositor of the female is deep black, and the male hypopygium is yellow. Wings hyaline. Legs yellow.

Structurally quite similar to *atricornis*, but more robust, and with the outline of the vertex more emarginate on each side of the ocellar triangle. Both species have a short setulose hair behind the supra-alar bristle which is not evident in the other species now before me. Venation as in *atricornis*, and in other characters similar except as noted in the key. Length, 2·5 mm.

Type, male, allotype, and two paratypes, reared from galls on seed capsules of *Eucalyptus maculatus*, Bodalla, N.S.W., October, 1929 (Forestry Commission); paratype male, labelled, "from *E. maculata* bud galls", Bateman's Bay, 15.10.1931 (W. L. Morgan).

Mounted with one specimen and in alcohol are examples of the puparia. These are about 2 mm. in length and 1·25 mm. thick at the posterior extremity, tapered slightly in front, and of a glossy reddish-brown colour, the ventral surface slightly flattened, darker than the remainder and with about 20 transverse striae on each segment, which are minutely pitted, most distinct on central segments and shading off at both extremities and on the sides. The posterior spiracles are in the form of small round dark brown elevations situated at a distance apart equal to about twelve times the width of one disc. A fuller description must await the working out of the life-history of the species by someone in the field.

FERGUSONINA MICROCERA Malloch.

PROC. LINN. SOC. N.S.W., 49, 1924, 338; *op. cit.*, 50, 1925, 92.

The genotype was described from a female, and subsequently I described the male.

Localities.—North Harbour, and Sydney, N.S.W.

FERGUSONINA BISETA, n. sp.

♂. Very similar to the preceding species, distinguishable by its larger size, and the character mentioned in the foregoing key to the species. The type specimen is rather teneral, but it appears justifiable to consider the presence of two bristles on each frontal orbit as indicative of specific distinctness from the genotype. Length, 2·5 mm.

Type, reared with *eucalypti* from galls on seed capsules of *Eucalyptus maculatus*, Bodalla, N.S.W., October, 1929 (Forestry Commission).

FERGUSONINA SCUTELLATA Malloch.

PROC. LINN. SOC. N.S.W., 50, pt. 2, 1925, 92.

I have seen only the type specimen from Sydney, N.S.W. It is the darkest coloured species of the genus known to me.

FERGUSONINA FLAVICORNIS Malloch.

PROC. LINN. SOC. N.S.W., 50, pt. 2, 1925, 92.

Only the type specimen has been seen by me. Locality, Sydney, N.S.W.

FERGUSONINA GURNEYI, n. sp.

♂, ♀.—Differs from the preceding species in the markings of the mesonotum, in being deeper yellow in colour, in having the scutellum quite broadly blackened on each side at base, and the base of each abdominal tergite broadly black.

All the frontal bristles are well developed, there being two outwardly-curved orbitalis on each side. The mesonotum differs from that of *flavicornis* in having only two pairs of posterior postsutural dorsocentrals, *flavicornis* having, at least in the type, a third, anterior pair. The second wing vein is not noticeably bent down at apex although it is slightly so in *flavicornis*. Length, 2 mm.

Type, male, and allotype, "From *Eucalyptus maculatus* bud galls", Bateman's Bay, N.S.W., 15.10.1931 (W. L. Morgan).

It may be worth noting that in the females of the genus the abdominal segment in front of the ovipositor forms a complete cylinder, and is not separated on sides.

Family OCHTHIPHILIDAE.

CHAETOLEUCOPIS, n. gen.

In Number xxvi of this series of papers (These PROCEEDINGS, 55, pt. 4, 1930, 488) I gave a synoptic key to the genera of this family, including in it all genera known to me at that time. In a recent lot of material received from Mr. W. B. Gurney there is one new genus to which I give the name *Chaetoleucopis*.

In the key just referred to the genus will run down to *Pseudoleucopis* Malloch, but in the latter there are two pairs of well developed fronto-orbital bristles, while in the new genus there is but one pair present. The postvertical and ocellar bristles are much weaker in the new genus than in the other, but they both agree in having the prescutellar acrostichals present, and in other characters, though the general structure of the head is more like that of *Leucopis* in the new genus than in *Pseudoleucopis*.

Genotype, the following species.

CHAETOLEUCOPIS DACTYLOPIVORA, n. sp.

♀.—Black, the head and thorax densely pale-grey-dusted, the frons viewed from certain angles showing black except on the orbits and triangle, mesonotum with two moderately wide dark brown vittae which are wider behind and disappear before the hind margin, the scutellum brown on disc, becoming grey apically. Abdomen shining black, very faintly greyish-dusted. Legs fuscous, extreme apices of femora and bases of tibiae yellowish, tarsi dirty yellow, apical two or three segments fuscous. Wings hyaline, veins brown. Knobs of halteres lemon-yellow.

Frons about 1·5 as long as its width at vertex, with some very short surface hairs, the orbits very narrow, sides slightly diverging in front, all four verticals and the single pair of orbitalis well developed, about twice as long and strong as the ocellar and postvertical pairs; lunule broadly arcuate and large; antennae inserted a little below middle of eye in profile, third segment large and almost round, with the bare arista inserted near base on upper side; face slightly concave; cheek not more than half as high as width of third antennal segment, with some marginal hairs. Thorax with two presutural pairs of dorsocentral bristles, the anterior pair much shorter than the posterior; the hairs in about eight to ten series between the inner margins of the dark vittae anteriorly; basal pair of scutellar bristles distinctly shorter than the apical pair. Abdomen ovate, with short hairs and longer apical setulae on the tergites. Legs moderately stout, without femoral or tibial bristles. Wings as in *Pseudoleucopis*, the inner cross-vein a little beyond middle of discal cell, and the outer one 1·5 times its own length from inner; third and fourth veins parallel apically.

Length, 2 mm.

Type and one paratype, from *Dactylopius albizziae* ?, Eastwood, N.S.W., 9.11.1925 (E. H. Zeck).

Type will be returned to the sender for disposition in some Australian museum, and the paratype retained by the writer.

Mounted on a separate card with the two imagines there is an imperfect puparium which is of the same general type as those of *Leucopis* reared in North America by the writer, the posterior spiracles being upon two stalks which are about twice as long as their basal diameter, much tapered at apices and separated at bases by about the length of one of the stalks. There are no outstanding characters preserved in the one specimen available and it will require well preserved larvae to enable one to determine what characters, if any, are diagnostic.

Family NEOTTIPIHIIDAE.

Genus TAPEIGASTER Macquart.

TAPEIGASTER MARGINIFRONS Bezzi.

Aust. Zoologist, 3, 1923, 74.

Three specimens of this species submitted by Mr. Gurney bear the data, "Found developing in fungus, Blackheath, N.S.W., 5.4.1931".

No puparia accompany the specimens, and the larval characters are unknown to me. A species of the genus has previously been recorded by Bezzi as feeding in fungi.
